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THE INVESTOR BEHAVIOUR
IN INDONESIA ISLAMIC CAPITAL MARKET

By: Isnaini Harahap, Marliyah dan M. Ridwan

ABSTRACT

This research aims to determine the behavior of investors in Indonesia Islamic capital market, which is measured by interest rates, inflation, and exchange rate, with the Jakarta Islamic Index (JII). Based on the fact that the Islamic capital market is growing rapidly and becomes a new trend, this research investigated the investors behavior, whether it same or different from the behavior in the conventional capital market. It is suspected that some macroeconomic variables that frequently used as references by conventional investors are also reflected in the Islamic capital market. This study uses VAR/VECM, while the data are time series from 2007-2013. From the Johansen cointegration test, it showed that all variables in this study tend to adjust in the short-term period to achieve the long-term equilibrium. Granger causality test shows that there are causal relationship in all variables and significant at 5%. IRF showed that there are a negative relationship between JII with inflation and interest rates in the short term, but positive in the long term. It means even investors are able to avoid interest in the short term, but in the long term, interest rate is still used as a reference for investors in the sharia capital market.

Keywords: Islamic capital market, Investor behavior, Jakarta Islamic Index, VAR/VECM

A. INTRODUCTION

The presence of Islamic capital market has played an important role in changing the world financial system and growing rapidly not only among Moslem but also in capitalist countries. In the economic growth concept, capital market is one indicator of a country's economic growth and tools for the investor to invest in the financial instruments such as stocks, bonds, mutual funds, and others. Shares is the most popular investment instruments in the capital markets. Issuance of shares is one way to get the additional funds needed by the company. Because of its nature to attract funds from investors, stocks generally offer a relatively higher rate of return than others although it has high risk too. For examples: the absence of dividend payments each period and the price that determined by the movement of the stock market.

The development of Islamic capital market in Indonesia is shown by the establishment of Jakarta Islamic Index (JII). JII is one of the stock indexes in

Indonesia which calculates the average price index for the stocks that fulfill the criteria of sharia. JII is intended to increase the trust of investors to invest in Islamic stock and provide benefits for investors to implement the Islamic sharia in the stock exchange. JII is also expected to support transparency and accountability in the Indonesian sharia stocks. JII fulfills the expectation of investors who need sharia investment. In other words, the JII is a guide for investors who want to invest their funds in sharia investments which free from usury. Moreover, the JII is a barometer of performance/benchmark in selecting a portfolio of lawful stocks (halal).

Actually, the stock market is influenced by many factors, there are fundamental factors that derived from the company and economic variables that affect the economy as a whole such as interest rates, inflation and exchange rate. [1] But what's interesting is, besides economic and fundamental factors, there is other factors that also affect the capital market that is irrational exuberance. Irrational exuberance is the potential ethical and moral to gain economic prosperity. When people fail to control their lust, and trade their soul for more money and wealth, it is the purpose of the law to see that such desires are guarded. The market is not a structure whose behavior can be predicted with full accuracy. All of these factors are interrelated and influence the investor's decisions to retain the stock or decide to sell it.[2]

Bank Indonesia rate is one of economic variables that affects the capital market directly. BI rate is the response of central bank to the inflationary pressure to stay on the established target. BI rate can change the movement of prices in the stock market. The decline of BI Rate automatically reduces interest rate of credit and deposit. For investors, the decline in interest rates on deposits, will reduce the

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[1] Some of researchers have conducted research about the influence macroeconomics variables to stock price. Among of them are: Muhammad Nauman Khan and Sharif Zaman "*Impact of Macroeconomic Variables on Stock Prices: Empirical Evidence from Karachi Stock Exchange, Pakistan*" Business, Economics, Financial Sciences, and Management Advances in Intelligent and Soft Computing Volume 143, 2012, pp 227-233. Muhammad Syafii Antonio et.all. *The Islamic Capital Market Volatility A Comparative Study Between In Indonesia And Malaysia*. Sezgin Acikalin, Rafet Aktas, Seyfettin Unal. "Relationships between stock markets and macroeconomic variables: an empirical analysis of the Istanbul Stock Exchange." *Investment Management and Financial Innovation*, Volume 5, Issue 1, 2008, p. 8-16. See http://businessperspectives.org/journals_free/imfi/2008/imfi_en_2008_01_Acikalin.pdf.

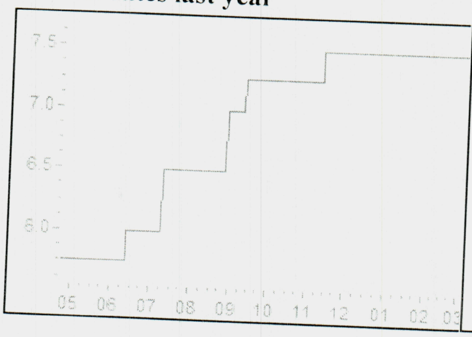
[2] Saiful Azhar Rosly. *Critical Issues on Islamic Banking and Financial Markets*. (Malaysia: Dinamas, 2005), h. 368

level of profit earned if they invested funds on deposit. In addition, the reduction in lending rates will lower the cost of capital, so the company is easy in finding the additional funds at a low cost to improve its productivity. Increasing of productivity will lead to a higher profit. It can be an attraction for investors to invest in the stock market.

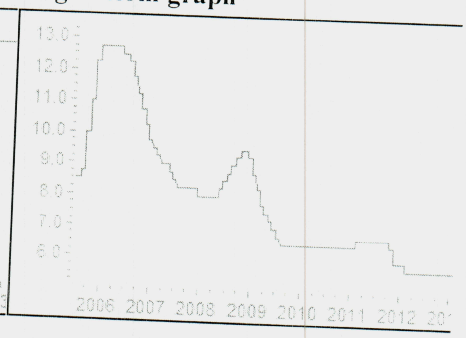
The influence of interest rate on the capital market can be viewed in the theory of Keynes. In his theory, Keynes stated that the investment function has a negative slope. It means that the lower the interest, the higher the investment. [3] Normatively, interest rates instrument is not used in Islamic economic transactions, so this variable should not be used as a reference in economic transactions including stock transactions in the Islamic capital market.

Graph 1: BI Rate

Graph Indonesian interest rate BI - interest rates last year



Graph Indonesian interest rate BI - long- term graph



Inflation is also one of the macroeconomics variables that has a major impact on economic activities, both the real sector and the financial one. Inflation is a general rise in the price of goods or services during a given period thereby reducing the purchasing power of individuals and companies. Therefore, if inflation is high, the profitability of the company will decrease. The decline in corporate profits is bad information for traders in the stock exchange and it can lead to decline in the company's stock price.[4]

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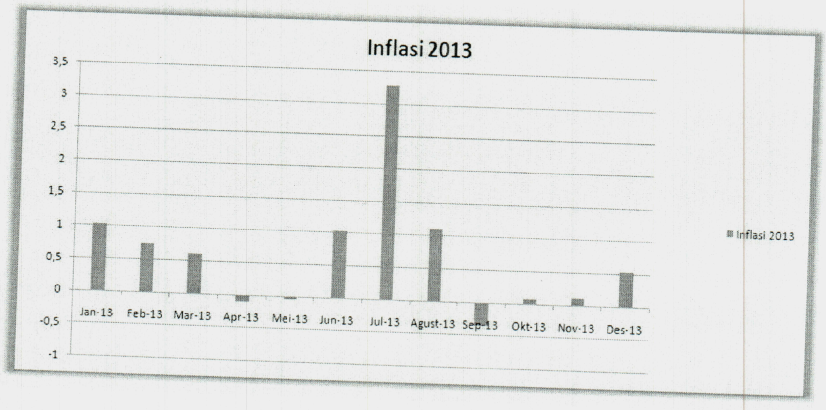
[3] Iskandar Putong. *Pengantar Ekonomi Makro.* (Jakarta: Mitra Wacana Media, 2008), h. 25

[4] Numerous empirical studies establish that inflation has a negative short-run effect on stock returns. See James W Kolari,. and Anari, Ali, *Stock Prices and Inflation.* Journal of Financial Research, Vol. XXIV, No. 4, Winter 2001. Available at SSRN: http://ssrn.com/abstract=244837. Ibrahim in his research found that there is the existence of a long run relationship between stock

Graph 2: Inflation 2013



Acording to Islamic economists, inflation is very bad consequences for the economy because it interferences on the function of money as a store of value, cause consumptive nature and directing investment to things non-productive such as land , buildings, and other precious metals.[5] Meanwhile, according to Slifer and Carnes theoretically there is a negative relationship between inflation and stock price performance. Inflation will decrease the real value and dividends of the company, so an increase in the inflation rate would lead to a weakening stock prices, otherwise if the rate of inflation decreases, the stock price will be strengthened.[6]

The exchange rate is the comparison of two different currencies. Theoretically, there are two perspectives on the relationship between stock prices and exchange rates. According to portfolio-balance view, the stock prices will affect the exchange rate negatively.[7] Equity is a company's assets that could affect the exchange rate via money demand. For example, the higher the stock price will

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returns and inflation. See Taofik Mohammed Ibrahim and Omosola M. Agbaje. "The Relationship Between Stock Return and Inflation In Nigeria." *European Scientific Journal* February 2013 edition vol.9, No.4 ISSN: 1857 – 7881 (Print) e - ISSN 1857- 7431, p.146-157

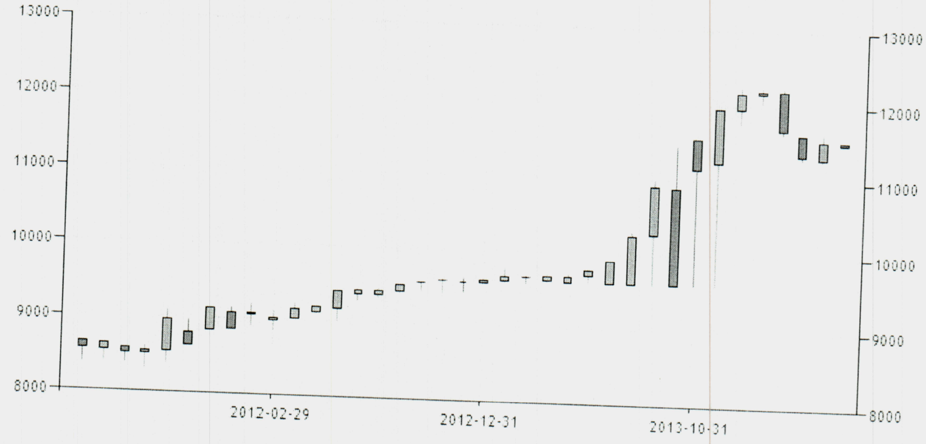
[5] Adiwarman Karim. *Ekonomi Makro Islam* (Jakarta: Rajawali Press, 2007), h. 139

[6] W. Stansbury Carnes is first vice president and senior economist for Shearson Lehman Brothers, specializing in the fixed-income and equity markets and advising on macroeconomics for Shearson's retail financial consultants. He holds a Ph.D. in economics from Georgia State University and taught there for three years. His book on the title *The atlas of economic indicators: a visual guide to market forces and the Federal Reserve* gives some information about economic indicators that affect the capital markets and Federal Reserve. See W. Stansbury Carnes and Stephen D. Slifer. *The Atlas of Economic Indicators: A Visual Guide to Market Forces and the Federal Reserve*. HarperBusiness, Universitas Michigan, 1991.

[7] Bodie, Kane, Marcus. *Essensials of Investments*. (New York: McGraw Hill/Irwin, 2008), h.116-143

lead to higher demand for money with the higher interest rate as well. It will attract foreign investors to invest their money and it will appreciate the domestic currency. On the other hand, based on the theory of interest rate parity and adjustment portfolio theory, it states that the changing of rate will affect investors' decision in investment. Rising exchange rate expectation of the domestic currency against foreign currencies will increase the stock price, hence the investors prefer to invest in the country than abroad cause of more profitable.

Graph 3: Indonesia Exchange Rate



The exchange rate is influenced by several factors such as the level of domestic interest rates, inflation, and central bank intervention on the currency market. Exchange rate has an important role in the framework of monetary stability and supporting economic activities, thus exchange rate is often becomes one indicator of a country's economic stability. Some researches have been done about the effect of the exchange rate strength on the capital markets, particularly exchange rate against the dollar. Luehrman stated that the currency depreciation of a country affects the competitiveness of international company, especially in increasing demand for export goods.[8] Di Iorio,[9] Dominguez,[10] and Bilal Savasa[11]

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[8] Timothy. A Luehrman,. "Exchange Rate Changes and The Distribution Of Industry Value." *Journal of International Business Studies*, 1991, p. 619-649.

9 Di Iorio, Amalia and Faff, Robert W., "Foreign Exchange Exposure and Pricing in the Australian Equities Market: A Fama and French Framework." EFMA 2002 London Meetings. Available at SSRN:http://ssrn.com/abstract=314369 or http://dx.doi.org/10.2139/ssrn.314369

[10] Dominguez, Kathryn M.E. & Tesar, Linda L., "Exchange rate exposure," Journal of International Economics, Elsevier, vol. 68(1), pages 188-218, January, 2006, This paper available at http://www.nber.org/papers/w8128.

in their researches showed that the certain exchange rate movements affect the company, although the company adjust its behavior dynamically in response to exchange rate risk. The changes in exchange rates will affect the companies, particularly the public companies that listed in stock exchange, thus it will have impact on changes of country's stock market index. The research that conducted by Singhe and Tsui indicates that exchange rate changes will affect almost all of portfolios in the country.[12]

The important thing is that investment in Islamic capital markets are not solely for economic gain, but how it capable to stimulate the real economy. One of the principles of Islamic investment is commitment of contracting parties to the objective of the contact. They are expected to grow with the firm and help it achieve its objective. Although in Islam, selling one's stocks is lawful, it is unethical to do so if doing so will hurt the company and its employees. Besides that, investment in Islamic capital market must be different from the conventional investment. Therefore, if any increase in interest, normatively Moslem investors not necessarily to sell their shares in order to make gain, especially investment in Jakarta Islamic Index which is a benchmark in the Islamic capital market in Indonesia.

In determining investor behavior in Islamic capital market (JII), there are four considered variables, namely: interest rate (percentage), inflation (percentage), exchange rate (percentage), and Jakarta Islamic Index (JII). This research uses monthly data (times series data) that is taken from www.bi.go.id, www.idx.com, and www.bps.go.id. The data is taken from January 2007 until December 2013.

To examine the investor behavior in Islamic capital market (JII), this study employs one of time-series investigation techniques, namely VAR/VECM. The

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[11] Bilal Savasa and Famil Samiloglub. "The Impact of Macroeconomic Variables on Stock Returns in Turkey: an Ardl Bounds Testing Approach." Afyon Kocatepe Üniversitesi, İ.İ.B.F. Dergisi (C.X II,S I, 2010), p.111-122. See at http://www.iibfdergi.aku.edu.tr/pdf/12_1/5.pdf. A similar study was conducted by Tülay Yücel and Gülüzar Kurt. *Foreign Exchange Rate Sensitivity And Stock Price: Estimating Economic Exposure Of Turkish Companies.* This file available at http://www.etsg.org/ETSG2003/papers/yucel.pdf

[12] Prabhath Jaya Singhe & Albert K. Tsui, 2007. "Exchange Rate Exposure of Sectoral Returns and Volatilities: Evidence from Japanese Industrial Sectors," *SCAPE Policy Research Working Paper Series 0710*, National University of Singapore, Department of Economics, SCAPE. Web page: http://www.elsevier.com/locate/inca/505557

standard investigation steps for VAR/VECM models are: Granger Causality Test, Impulse Response Function and Variance Decomposition, and some procedures that will be used in this study, consists of: (1). Unit root test, (2). Lag length determination, and (3). Co integration test (Johansen Co integration Test). By using VAR model, the behavior of investors in the Islamic capital market/JII will be portrayed both in the short and the long term.

B. SHARIAH INVESTMENT

- Principles of Shariah Investment

Today shariah capital market investment have expanded in popularity. Shariah investment in capital market requires considerable effort to implementation of shariah principles (shariah compliance) both in funding and types of investments. Shariah-compliant investment represents a series of ethical investment that are organized in accordance with Islamic law. In essence, shariah investment in a capital market guides a flow of fund from the surplus sector to deficit sector. In a market economy, the flow of funds is governed by market forces. To invest directly in the financial market implies doing so without using the middleman, i.e. the financial intermediaries and it can be done directly via ca deals with long-term investment in treasury bill, shares, etc.

Capital market instrument are subject to greater price fluctuation. As investment in the capital market prone to volatilities and market risk such as interest risk, inflation risk and exchange rate risk. Essentially, any transaction (supply and demand of fund) in the capital market runs on the basis of debt and equity contract. But in Islam debt finance, one cannot treat profit as legal claims, as it implicates interest as riba. Based on that, Islamic capital market should be apply the principles of Sharia. that is:

1) Prohibition of *riba*. One may not profit from “fixed, predetermined aspects of interest-based lending” which is perceived as an unfair advantage lenders impose on borrowers Any amount in a contract of loan or debt – regardless of size – that exceeds the principal is riba. Such contracts are prohibited by the Quran, regardless of whether the loan is taken for the purpose of consumption or for some production activity. This indicates that any forms

ing or paying interest are not allowed, because Islam defines all interest as usury. The rationale behind the prohibition of interest in ggests an economic system where all forms of exploitation are :d. In particular, Islam wishes to establish justice between the and the entrepreneur. The financier should not be assured of a return without doing any work or sharing in the risk, while the neur, in spite of his management and hard work, is not assured of ositive return.

tion of *gharar*. Contracts should be transparent, minimize risk, and to profit from uncertainty.

:ion of *maysir*. Related to *gharar*, one may not profit from gambling 1es of chance, including pure speculation.

ations' activities must be productive and must not primarily engage *am*' activities forbidden by the religion such as producing liquor and 1g. The precise list of such activities may vary, reflecting the global nd adaptability of the religion.[13] In addition, the investment should ctly related to an asset or business activities that generate benefits. In to the stock market, the form of the investment is buying a shares of npany either public or non-public shares. Investing in the public ny's shares conducted through the purchase of shares on the primary or secondary market.

der to be deemed shariah-compliant, an Islamic product must be a shariah advisory board or shariah supervisory committee of amic scholars. Once this board satisfies itself that a proposed structure is compliant with shariah principles, it issues a fatwa 1e proposal. The product can be marketed only when the fatwa of liance is issued. Upon the launch of the product, the Shariah d continues to monitor the product on a regular basis to ensure and in effect, to act as "shariah auditors" for the product. It is cet practice for Islamic financial service providers to engage their

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Huda, Mustafa Edwin nasution. *Investasi pada Pasar Modal Syariah* (Jakarta:).24-28. See also Saiful Azhar Rosly, *Critical Issues on Islamic Banking*, h. 26

own shariah boards or employ shariah advisors who can provide access to such a board.

- Types of Investment

The types of investment instruments that have been developed in Indonesia and used as a tool for investment by Islamic mutual funds, described as follows:

a. Sharia Certificate of Bank Indonesia (SBIS).

Bank Indonesia Sharia Certificate (SBIS) is a short-term rupiah denominated securities based on sharia principles issued by BI. SBIS is published using contract-ju'alah.The meaning of the contract ju'alah that yield in Bank Indonesia regulation No. 10/11/PBI/2008 about Bank Indonesia Sharia Certificate with National Fatwa Sharia Board (DSN) of Indonesian Ulama Council No. 64/DSN-MUI/XII/2007 about Ju'alah that it is a promise or commitment to give particular reward (*'iwadah/ju'l*) on the achievement of results (*natijah*) as determined from a job.

In fatwa of the National ShariaCouncil of Indonesian Ulema Council (DSN-MUI) No. 64/DSN-MUI/XII/2007 about Bank Indonesia Certificates describe the system on the use of contract ju'alah on Bank Indonesia Sharia Certificate that's Bank Indonesia acting as *ja'il*(the employer) and Bank Sharia as *ma'jullah* is (receiver employment) and object (*ma'julalaih*) is participation of Islamic banks to assist Bank Indonesia monetary policy through the absorption of liquidity from society and placed it in Bank Indonesia in particular time and amount.

b. Mudharabah Investment Deposit

Mudharabah Investment deposit is a placement of funds from a fund owner (shahibul maal) to a fund manager (mudharib) to conduct a specific business activity using profit and loss sharing method or revenue sharing method between both parties based on a ratio mutually agreed in advance.

Mudharabah is a contract between two parties that is the owner of the capital and the entrepreneur. The depositor, who is the owner of the capital, places a specified sum of money with the bank, who will acts as the entrepreneur for the purpose of anticipating in the profits made from the utilization of the fund. Both parties agree with the profit distribution /

sharing ratio. The depositor does not participate in the management of the funds. In case of a loss, the customer shall bear all the losses while the profits generated from the use of the customers' funds will be distributed according to the predetermined ratio agreed by the both parties.

c. Shariah Bond/Sukuk

Islamic Bonds are long-term securities based on Islamic principles issued by company to provide investors with a the profit sharing as well as the obligation to pay back the bond fund at maturity time. Islamic Bonds is a long-term contract agreement to pay back at a certain time all benefits under the contract. The instrument of Islamic Bonds based on fatwa DNS No.32/DSN-MUI/iX/2002 may be issued using the principle of mudaraba, ijara, Musharaka, salam, murabaha and istisna depends on the issuer's

d. JII Stocks

The Jakarta Islamic Index (JII) is a stock market index established on July 3, 2000 on the Indonesia Stock Exchange (IDX) (formerly known as Jakarta stock Exchange) to help facilitate the trading of public companies according to sharia business code. Following Islamic law prohibits a company from involving itself in activities related to gambling, speculation, and traditional banking and financing. The JII may not list equities that produce or distribute food, drink, or morally harmful items that stand in contradiction with Islamic values. Considerations for the JII must meet procedural standards as well as performance requirements, such as:

- The share must be listed on the exchange for at least three months prior to application.
- The company's annual or mid-year financial report must have an Obligation Asset ratio of no more than 90%.
- Rank in the top 60 shares based on the previous year's average Market Capitalization.
- Rank in the top 30 shares based on the previous year's average liquidity in the regular market.

Shares that may be purchased is shares in accordance with the provisions of the National Sharia Board (DSN). The Shari'ah rules that must be fulfilled in a stocks is as follows:

a. The contract used is Musharaka / mudharabah if offered on a limited basis.
b. Revenue offered in the form of profit sharing or not the coupon rate.
c. Issuers are halal and Islamic companies according to the criteria of the DSN.
d. All contract based on primary market transactions in real (underlying assets obviously) not to pay the debt.
e. No speculation, gharar and maysir.

Under the direction of the National Sharia Board and Bapepam - LK No. IX.A.13 on Issuance of Islamic Securities, the main type of activity is considered a business entity does not fulfill Islamic law is to:

- Gambling Enterprises and games are classified as gambling or prohibited trade.
- Organizing financial services that implement the concept of usury, selling risk and maysir containing gharar.
- Producing, distributing, trading and providing goods and services that a lawful cause of it substance, illegal not because of his substance set by the DSN-MUI, and or goods/services that damage morale and harmful.
- Invest in companies that during the transaction rate (ratio) of corporate debt to the financial institution usury more dominant than capital. While criteria for sharia stock are:
  a. Not conduct business activities as described above.
  b. Not trading that is not accompanied by the delivery of goods / services and trade with false supply and demand
  c. Not exceed the financial ratios, i.e. total interest-based debt compared to total of equity is not more than 82% and total interest income and other income (non halal income) compared to total income are not more than 10%

Jakarta Islamic Index will be reviewed every 6 months, that is January and July of each month or by the period stipulated by Bapepam-LK namely when issuance of Islamic securities list. While the change in the type of business issuers will be monitored continuously based on publicly available data.

e. Sharia Mutual Fund

Mutual Funds are groups of stocks and other investment instruments (Bonds, Certificate of deposits, etc.) managed by a "professional" and pooling money from thousands of investors and leveraging the aggregated amount of the pooled money in buying stocks and bonds. Any mutual fund falls roughly into one of two categories:

- **Income Funds**: These aim to provide the investor with a regular income (monthly/quarterly) by investing in securities that provide income (e.g. dividend paying stocks, ...etc.). The appreciation of capital is of secondary importance (if at all).
- **Growth Funds**: The main aim of this type of fund is to grow the capital invested by appreciation of the undelying securities, and not to provide any annual/quartely income.

Historically, 80% of fund managers have underperformed the major market indexes. This means that the average non-muslim investor is better off buying a no-load index fund, than choosing a more "managed" fund. Muslims can now take advantage of this, since there are several Islamic Indexes, including the Dow Jones Islamic Market. But its very important to understand that it is not sufficient for a fund to track an Islamic index to be 100% Islamically acceptable. It is a step in the right direction, but there are other considerations that need to be taken care of namely the fund must be overseen by a Sharia Advisory Board of prominent scholars that will advise the fund managers on Islamic shariah rulings on various issues of investment and finance. And any mutual fund (or even stock broker account) will have some cash reserves that will allow investors to withdraw their holdings completely or partially. This cash generates some interest, and has to be dealt with in a well defined purification process.

C. INVESTOR BEHAVIOUR

1. *Definition*

At the end of 1980, there are some exceptions which do not correspond to standard finance models. These exception categorized in three topic: chronological anomalies, fundamental anomalies and technical anomalies. Studying the exceptions in financial markets leads to present new view in financial area which can be stated as behavioral finance, in other words, the relation between financial knowledge and other social science branches, which can be called behavioral finance, tries to study investors decision and their relations to different situations in financial markets. And their emphasis is more on personality, culture, judgment of individuals while deciding for investing.[14]

A theory stating that there are important psychological and behavioral variables involved in investing in the stock market that provide opportunities for smart investors to profit. For example, when a certain stock or sector becomes "hot" and prices increase substantially without a change in the company's fundamentals, behavioral finance theorists would attribute this to mass psychology. They therefore might short the stock in the long term, believing that eventually the psychological bubble will burst and they will profit.

According to Ricciardi, behavioral finance is a discipline in which the inherent interaction of various disciplines (interdisciplinary) and continuous integration. Behavioral Finance seeks to explain and better understand the mindset of investors, including the influence of emotional processes that influence the decision-making process. In essence, behavioral finance seeks to explain what, why, and how to finance and invest in human perspective.[15] Behavioral finance is built by a variety of assumptions and ideas of economic behavior, emotional involvement, the nature, joy and all sorts of things inherent in human beings as an intellectual and social beings who interact and make decisions underlying the emergence of an action.

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[14]Mehdi Khoshnood dan Zahra Khoshnood, *Behavioral Finance: A New Paradigm in Finance*, International Conference on Information and Finance. IPEDR vol.21 (2011) © (2011) IACSIT Press, Singapore p. 97.

[15]Victor Ricciardi and Helen K. Simon, *What is Behavioral Finance?*, Business, Education and Technology Journal Fall 2000., p. 2.

People invest in idle wealth because they expect a return. Return is the rate of investment profit or gift for investment.[16] Returns of investment are not derived from a single source, but it mostly came from periodic payments such as dividends or interest. Another return comes from capital gain that is the difference between the purchase price and the selling price of a stock. Rate of return is a key variable in investing because it is an indicator of the speed of an investor in increasing wealth. Instinctively, people prefer to grow their wealth rather than losing wealth. But in investing, profits or returns are uncertain. The rational investors will choose the investment that has a high compensation for the risk borne. The higher the risk, the higher the profit expected by investors. This is in accordance with the rules:

من ضمن مالا فله ربحه

"Who guarantees (to risk) of a property, then he is entitled to benefit".

Recognizing the inability of traditional finance to explain the phenomenon of anomalies in the money markets and capital markets, the financial researchers started linking phenomena with aspects of behavior (behavioral finance). During the 1990s, behavior finance appears in line with the demands of business and academic world began to reveal any aspect or element of behavior in process of financial decision-making and investment.

The concept of behavioral finance are often developed as an issuer's stock price movements that can not be explained by Fundamental Analysis and Technical Analysis. It can happen because investors are not only using Fundamental and Technical Analysis in making investment decisions, but also investors' psychological factors play a role in the investment decision making process. An example is, an investor sells the shares held as soon as possible when it is profitable and hold shares held so long as the share price falls. It suggests that investors do not want to suffer a loss on their investments. There is a tendency of investors that they would not sell their shares which are experiencing significant price declines until the stock prices rise again. In fact, both Fundamental and Technical Analysis states that an investor should set the area cut loss at certain

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[16]Lawrence J. Gitman, et.all, *Fundamentals of Investing*, Edisi XI (Boston: Prentice Hall, 2011), hal. 119.

price levels and disciplines applying the cut loss area. It is difficult to apply because psychologically, investors assume that to cut losses equal to "defeat".

Based on the example mentioned above, a good investor is the investor who is able to combine financial knowledge through Fundamental and Technical Analysis with psychological science. The combination of the two is known as the concept of Behavioral Finance. Behavioral Finance can be defined as the study of how humans take action on the investment decision-making process in response to the information obtained.

2. Determinant Factors of Behavioral Finance

In Behavioral Finance, there are three factors on human behavior that is contrary to the assumptions in the Fundamental and Technical Analysis. These three factors are:

a. ***Risk Attitudes***, is the most basic assumptions of Behavioral Finance which assumes that people (investors) are creatures who do not like risk. Investors would prefer an investment that provides positive returns compared to investment that contain uncertainty in returns.

Based on statement above, because the rate of return is directly proportional to the level of risk, investors are willing to buy riskier stocks only if the stock potentially generate higher returns.

b. ***Mental Accounting*** assumes that investors tend to classify their financial in vary account based on subjective criteria, such as source and destination of funding and investment. For example, Anton and Santi decided to watch a movie with a ticket for Rp 25.000, -. When it arrived in theaters, Anton realizes that it has lost $ 25,000, -. Anton decided to keep buying cinema tickets. On the other hand, Santi already bought movie tickets for Rp 25.000, -, when he reached the front door of the cinema, she realized that her tickets was lost. Santi decided to cancel plans to watch it.

In the concept of Behavioral Finance, this is due to buy a ticket to replace the lost ticket cause Santi think that she has issued Rp 50.000, - for the ticket, and this is not acceptable Santi. But losing money amounting to Rp 25.000, - does not affect the cost to watch a movie for Anton (fixed Rp 25.000, -).

c. ***Overconfidence*** is the assumption that humans (investors) have a tendency to be too sure of the ability and accuracy in the prediction of the investment. Thus, investors that are overconfidence tend to be aggressive in investing.

With the three assumptions mentioned above, previous stock price movement that can not be explained by the Fundamental and Technical Analysis, now it can be found and explained the cause.[17]

Although, there are several investor behavior, but an Islamic investor is an individual or company which follows the rules and laws of trade and investment as set by the religion of Islam. In Islam, things can be halal or haram. Shariah clearly defines a number of aspects which are not permissible for Muslims, such as the consumption of alcohol and pork, and thus compliant companies are not allowed to participate in business earning primarily or even partially from such activities.[18]

In terms of the financial structure of the business, Shariah rules require three important aspects to be considered: Debt availed by the company; Interest and other suspect earnings of the company; and Extent of cash and receivables with the company. The relaxation thresholds used by various Shariah boards to make equities Shariah-compliant involve calculating interest (and other *haram* income) earned as a percentage of total revenue (income) and setting the aximum threshold for income from such haram activities generally between 5% and 10%.[19]

D. DETERMINANTS OF JAKARTA ISLAMIC INDEX (JII)

Broadly, the bond market indicators are influenced by fundamental factors and technical factors. Fundamental factors are factors that originate from the company that issued the shares (issuer). If the company that issued the stock is in conditions of good performance, stock prices will tend to rise. This is due to the issuer's investor confidence is getting better, investors have hope will receive the large profits or dividends. These fundamentals can be seen from the published

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[17]Analisa Investasi: Behavioral Finance, Profits Buletin, Vol.XX/2013 Compiled by AT Research—at.research@phintracosecurities.com

[18]Syed Faiq Najeeb, *Islamic Capital Markets: An Exploratory Study on Investor Rationality* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1910660, p.9.

[19]*Ibid.*, p.10

financial statements every three months. The financial statements show the level of financial performance in terms of the profitability, liquidity, leverage, and activity

Technical factors are factors that come from outside the firm that affect the company's stock price. The stock price is very vulnerable to issues and cases that occur outside of the company. Eg economic conditions greatly affect the fluctuation of stock prices, as happened during the economic crisis of 1997 that led to all of the stock price fell drastically as indicated by the decline in composite stock price index of over 600 to around 300. There are several technical factors that affect stock prices such as interest rates, inflation rates, foreign currency exchange rate, oil prices, gold prices, and other economic policies. Fundamental and technical factors will cause the changes in investor behavior and fluctuations in bond and stock prices.

a. Interest Rate

Investments in deposits or SBI, will result in a risk-free interest without thinking about its management. While bond investments involve risks such as failure or failing receipt of coupon redemption and losses due to lost opportunities to make investments elsewhere (opportunity cost). Therefore, the bond yield obtained should be higher than the level of deposits or SBI. SBI interest rate movement affects the fixed-income securities. The increase in SBI interest rates are expected to provide alternative investment because people prefer to buy SBI which provides high interest. In turn the increase in SBI interest rates certainly have an impact on the increase in commercial rates. While a high level of commercial interest is not the right moment to realize capital gains. Because bond prices are inversely related to market interest rates. So the increase in commercial rates will lead to lower bond prices.

According to Van Horne and Wachowicz (1997) if the interest rate increases, the expected rate of return on the market also increased, then the price of the bond will decrease. If interest rates decline, bond prices rise. So the interest rates and bond prices move in the opposite direction. From the above statement, it is clear that the diversity interest rates can cause bond prices diversity. Securities price variation caused by changes in the interest rate is called the interest rate risk.

The value of a bond moves in the opposite direction to the change in interest rates in general. If interest rates tend to go down, then the value or price of the bond will increase, as investors tend to invest in bonds. Meanwhile, if interest rates tend to rise, then the value or price of bonds will fall, as investors tend to put their money in the bank[20]

b. Inflation

Inflation can be defined as a continuous rise in the price level of the economy due to the increase in aggregate demand or aggregate supply.[21] Broadly there are three groups of theories about inflation are:

1) Quantity theory, inflation occurs due to the increase in the money supply.
2) Keynesian theory, inflation is caused by money supply or excessive liquidity.
3) Structuralist theory, inflation is due to the substitution of imports with high costs and lead to higher prices of goods and the demand increase in wages of industrial workers which will further increase the cost of production.

Al-Maqrizi classify a contributing factor to inflation based on two things, that is inflation caused by natural factors (natural inflation) and caused by human error. The first type of inflation is what happens at the time of the Prophet and the first four caliphs, that is inflation due to drought or because of the war. Inflation due to human error is due to three factors, that is corruption and poor administration, the tax burden, as well as an excessive amount of money. Al-Maqrizi says that the money is restricted to the minimum level required for any transaction.[22]

In general, inflation caused a decline in purchasing power, as well as a decline in real incomes. inflationary impact on the economy as a whole, for example, long-term economic development prospects will get worse, destabilizing the economy with damaging long-term plans of economic actors. The impact of inflation on the national economy, among others: the investment is reduced, pushing interest rates, encouraging speculative investors, causing the failure of the

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[20] Bapepam. *Studi Tentang Investasi Syariah Di Pasar Modal Indonesia*. 2004.
[21] William McEahern. *Ekonomi Makro* (Jakarta, 2000)
[22] Adiwarman Karim. *Ekonomi Makro Islam*, h. 139

implementation of the development, the uncertainty of future economic circumstances, lead to reduced competitiveness of the national product, balance of payments deficits, and rising the number of unemployed. Theoretically there is a negative relationship between inflation and stock price performance. Inflation assessed will decrease the real value of the company as well as dividends, so that when an increase in the inflation rate would lead to a weakening stock prices, otherwise if the rate of inflation decreases the stock price will be strengthened.

c. *Exchange Rate*

Exchange rate of Rp / $ can increase (decrease) or an appreciation (depreciation) according to economic conditions. In a macro-economic system in the event of increase in the exchange rate of USD / $ means that there is an offer to the $ amounts greater than the previous period. This occurs because the value (Export - import) of goods and services, foreign exchange reserves, the flow of investment (either in the form of foreign direct investment or financial assets / the Securities) has increased. At a certain scale, the rupiah appreciation will cause a decline in the competitiveness of exports, so that the monetary authorities and the relevant minister will lower interest rates. Instead, it would raise interest rates if there is a decline in the value of currency IDR / $ (depreciation)

With the decline in interest rates, capital costs will be reduced and the company will expand / investment resulting in the expected rise in corporate earnings . With the expectations / perceptions of the positive value of the company will make an increase resulting in an increase in the price of a security (stocks and bonds). Conversely, if interest rates rise , the burden of capital cost and operational cost will go up so that the operating income (EBIT) of issuers will go down which will be reflected in a decrease in the price of the Securities both stocks and bonds.[23] Rate changes can directly affect the price of the bond despite the SBI rate fixed. Only at a certain scale to maintain the competitiveness of the economy, the monetary authority to make corrections to the magnitude of the SBI rate is usually followed by commercial banks in general. So it can be said

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[23]Suad Husnan , *Dasar-dasar Teori portofolio dan Analisis Sekuritas*, Edisi Ketiga, (Yogyakarta UPP AMP YKPN, 2005).

to the change in the exchange rate USD / $ can directly lead to changes in bond prices and indirectly through changes in interest rates.

E. FINDINGS AND ANALYSIS

a. Unit Root Test

Unit root test is one crucial step to check whether one variable has unit root or not. By using ADF test, we check the data stationary in the level condition. If data is not stationary in level, we have t conduct the second ADF test by using data in the first difference condition. In this study, the researcher use 95% confidence interval. Based on appendix, it can be concluded that JII, inflation and exchange rate are stationary in level with critical value 5%. While the SBI is not stationary in level because its ADF values greater than 5% critical value. Therefore the second step must be conducted for the SBI which is not stationary on level. After changing the data into the first difference condition, it is obtained that all variables are stationary.

b. Granger Causality Test

Granger Causality Test between variables intended to determine and prove the direction of short-term relationships between variables. Causality test was conducted using a multivariate VAR models simultaneously. Each equation in the VAR was tested in the distribution of Wald Chi-Squares or ordinary denoted $\chi 2$ - Wald. Each variable is exchanged from the endogenous variables into exogenous and tested causality relationship. Results of statistical calculations $\chi 2$ - Wald shows the joint significance of endogenous variables different in the VAR equation. Based on the appendix all the variables have a reciprocal relationship or have a two-way relationship is significant at 5% at lag 7.

c. Co integration Test

When one or more variables in the system are not stationary but possess a co integration relation, then the linear combination among the variables in the system will be stationary and form stable long run equilibrium. In this study by using Johansen's Co integration Test, the researcher compares the value of trace statistic with 5% critical value. Here are the results of co integration test by using the Johansen Co integration Test method. Based on Johansen's co integration test, can be viewed the number of relationships, and it can be concluded that: at Trace Test identifies there are two co integration equations at 5% level and at Max Eigenvalue test identifies there are 2 co integration equations at 5% level

d. Empirical Model VECM

1. Impulse Response Function (IRF) of Sharia Capital Market In Indonesia

Impulse response function (IRF) defects how are variable reacts to the shock that attack other variables. In the IRF, the response variable in the short term is usually quite significant and likely to change. In the long run the response tends to be consistent and continue to smaller. Impulse Response Function gives an overview of how the response of a variable in the future if there is interference on one other variable.

2. Sharia Stocks Price Movement (JII) Response on interest rate

The JII response to shock in interest rate showed that in first period JII responds negatively to the interest rate. This is because characteristic of JII as a shariah stocks. As a shariah stock, the JII returns/earnings should not refer to the interest rate. This result shows that an increase on BIR will in turn push the weaknesses of the JII, except if there is a change in the BIR. However, these negative responds turned positive in 10-13th months. From the IRF above we can concluded, although normatively the interest rate is not the instruments used in economic transactions but in the reality the interest rates effect still exist. From the IRF above we can also viewed that the stability and convergent begins on the 14th month. The JII response on interest rate shock occurs because the change in interest rate information is important for the investors especially in the relation to investment return. In the random walk theory, a negative response from JII occurs because the increase of interest rate is viewed as bad news for the investor in the Indonesian capital market.

The negative sentiment from investors naturally occurs because investors argue that the increase of interest rate may trigger an increase of banking deposit interest rate, therefore investment in the form of deposit in banking which has minimum risk is considered more favorable than investing in a high risk capital market. This analysis is in line with the theory of capital asset pricing model (CAPM) that explains that the increase of interest rate which is free-risk (deposit interest rate) may decrease the benefit which is expected for the stocks.

3. *Sharia Stocks Price Movement (JII) Response on inflation*

The result showed that JII relationship with inflation where the JII responds negatively on inflation. The magnitude of the impact shock JII take place in the short term about 9th periods (months) and stability begins on 10th month. The negative relationship between JII to inflation due to Sriwardani Slifer and Carnes because inflation will decrease the real value of the company as well as its dividends, thus when an increase in the inflation rate would lead to a weakening stock prices, otherwise if the rate of inflation decreases the stock price will be strengthened.

4. *Sharia Stocks Price Movement (JII) Response on exchange rates*

JII relationship with the exchange rate showed that JII responds positively on exchange rate. The positive response of JII is caused because in the short term, IDR depreciation may trigger positive sentiment for the investor in the capital market. According to the random walk theory, IDR depreciation is considered good news because it is able to increase price competitiveness of products that are produced in Indonesia for the international trade. Through the decrease of IDR compared to the international exchange rate (USD), it may cause the price of Indonesian products to drop, making it cheaper and therefore increase export demand of domestic products. In addition, the increase of a company's export will obviously increase the corporate income and eventually increase the dividend.

The exchange rate shock impact on JII takes place about 13th period (month) and starting converging at 14th month. This positive relationship the changes in exchange rates will affect particularly the public companies that listed in stock exchange thus it will have impact on changes of country's stock market index.

e. Analysis of Variance Decomposition

Variance decomposition is procedure to measure the percentage of the changes of each variable. There are several things that can be observed from the variance decomposition. First, analysis of variance decomposition showed that forecast error variance of JII for the first period determined by JII at 100%. In the 2nd period and so on the influence of different JII has begin to decline, although still remain dominant by 70% in 2nd period and 58% until the end of the period, while the contribution of interest rate 5.9%, inflation 10%, and the exchange rate 0.1%.

Variance decomposition results above showed the dominant effect of inflation on JII by 10% or 9.7% at the end of the observation. Particularly, the effect of interest rates on the JII only reached 5.9% at the beginning of the observation, but increase 8.23% at the end of the observation. This indicates that in the long term, the Islamic capital market has not been able to be separated from the influence of the rate that is normatively prohibited in Islamic transaction.

f. Analysis of VECM Estimation

VECM estimation yields information about speed on the instability relationships from short-tem to long-term equilibrium. Variables that are non stationary at level will be processed with testing the unit root in first difference level. However the usage of first difference data can eliminate the long-term information in the study. Therefore, VECM will be used in the order to anticipate a loss of long-term information as long as there is co integration on the model. If t-trace statistics (1.690) are greater that the Mackinnon critical value of 5%, it indicates that the explanatory variable is significantly affecting JII.

The summary of estimated VECM findings for JII in the long run is despite in the appendix as follow:

1. SBI variables did not significantly affect the JII in the long-term. This proves that the interest rate in the long-term is not a reference to the JII
2. Inflation does not significantly affect the JII in the short-term, but significant in the long-term. The positive relationship with coefficient of 0.030, 0.0001 and 0.0008. The positive the relationship between JII and inflations its means 1 percent rice in inflation leads to a 0.030, 0.0001 and 0.0008 percent increase in the JII.
3. BI rates does not significantly affect the JII in both the short and long term

F. CONCLUSION

Based on the findings above, we can conclude that in short term, the investors of JII still refer to interest rates as a benchmark to get returns but in the long term, they imply the Islamic values by not referring to the inflation, price fluctuation, and interest rates as a benchmark in stock market.

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